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AUTHOR Holmes, Sandra L.; And Others
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ABSTRACT

Telephone interviews were conducted to compare reported and true date of birth and salary for 105 Mexican American, 219 Anglo American, and 134 black city employees in San Antonio, Texas. The Anglo and Mexican American samples were randomly selected from the police and fire departments; the blacks, not being concentrated in sufficient numbers in any few departments, were taken from all 22 city departments. Telephone numbers and data about sex, birth, and employment dates, and salary were obtained from a document filled out by employees in the Personnel Department. A questionnaire was written to guide in eliciting responses about the same factual information taken from the personnel records. Two Anglo females who were experienced in interviewing for scholarly and commercial research conducted the interviews. Significance of differences tests were conducted with the chi-square procedure. Inaccurate responses were categorized into over- and understatement. Some findings were: (1) of the 455 responses to the birth date question, 20 of the Anglo, 9 of the Mexican American, and 21 of the black responses were inaccurate; (2) of the 389 responses to the salary question, only 33 were correct within one dollar; and (3) the younger, but less well-paid blacks tended to report their salaries more accurately. (NQ)

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A COMPARATIVE STUDY OF THE VALIDITY OF INTERVIEW RESPONSES BY MEXICAN-AMERICANS, ANGLO-AMERICANS, AND BLACKS

Sandra L. Holmes
Doctoral Candidate
The University of Texas at Austin

Robert C. Howe
Assistant Dean
School of Business and Administration
St. Mary's University

Charles N. Weaver
Professor
School of Business and Administration
St. Mary's University

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A COMPARATIVE STUDY OF THE VALIDITY OF INTERVIEW RESPONSES BY MEXICAN-AMERICANS, ANGLO-AMERICANS, AND BLACKS

The problem of validity in survey research arises because respondents do not always tell the truth.[1] Even the most carefully planned research project is destined to failure if respondents substantially misrepresent facts to interviewers. Two schools of thought exist with respect to the definition of validity.[2] Social psychologists, educators and others involved with psychological testing are concerned with validity in terms of predictive accuracy. Thus, the validity of attitude and opinion surveys is measured by their ability to predict the performance of individuals in some future situation.[3] Many social researchers have come to realize, however, that confining the definition of validity to predictive accuracy is an unwarranted limitation on the use of survey results.[4] Opinion may be closely related to validity and yet have a unique validity of its own. In dealing with the validity of factual information, a new definition of validity was necessary. Hence, the concept of validity has also come to

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[1] Carol H. Weiss, "Validity of Welfare Mothers' Interview Responses," Public Opinion Quarterly, XXXII (Winter, 1968-1969), 622.

[2] Hugh J. Parry and Helen M. Crossley, "Validity of Responses to Survey Questions," Public Opinion Quarterly, XIV (Spring, 1950), 61-64.

[3] Ibid.

[4] Ibid.

mean the degree of accuracy with which respondents reply to survey questions.[5] This investigation is concerned with the concept of truthfulness as a determinant of validity.

A prerequisite of validity is reliability which refers to the consistency of responses elicited through surveys and tests.[6] Reliability is measured by means of a test-retest procedure with the objective of determining whether the same interviewee will respond differently to the same question at different times.[7] Consequently a survey must be reliable in order to be valid since it must always elicit an accurate response. A reliable survey could consistently evoke the same answer, however, and still be invalid since no consideration would be given to the accuracy of response.[8] In order to be valid, a survey must accurately measure and report the data for which it was designed to measure.

Because of the difficulty involved in verifying answers, even when respondents can be identified, relatively little work has been done in this area.[9] An even lesser explored facet of validity research is the error involved in survey responses by members of the two largest minority

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[5] Ibid.

[6] Lee J. Cronbach, Essentials of Psychological Testing (New York: Harper and Brothers Publishers, 1960), p. 126.

[7] Frank S. Freeman, Theory and Practice of Psychological Testing (Chicago: Holt, Rinehart and Winston, 1962), p. 66.

[8] Cronbach, loc. cit.

[9] Parry and Crossley, op. cit., p. 64.

groups in the United States, Mexican-Americans and Blacks. The authors are aware of only one study which was designed specifically to determine the validity of the responses of minority group members to interviews, and this study dealt only with the validity of reported welfare payments by Black welfare mothers.[10] The lack of knowledge in this area is partially attributable to the difficulty involved in gaining access to factual information on a controllable concentration of minority group members who may be contacted for interviews. Moreover, the difficulty involved in locating and contacting certain minority group members is often considerably greater than that involved in reaching the white Anglo respondent.[11]

METHOD

We conducted telephone interviews with 219 Anglo-American, 105 Mexican-American, and 134 Black employees of the city of San Antonio. The Anglos and Mexican-Americans were randomly selected from the police and fire departments, but the Blacks, not being concentrated in sufficient numbers in any few departments, were taken from all of the

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[10] Weiss, "Validity of Welfare Mothers' Interview Responses," p. 622.

[11] Weiss, "Interviewing Low-Income Respondents," Welfare in Review, IV (October, 1966), 2-3.

city's twenty-two departments. The Blacks who were interviewed were all those employed by the city who could be reached by telephone.*

Telephone numbers and information about sex, date of birth, date of employment, and salary were obtained from a document in the records of the Personnel Department which was filled out by employees.** (They sign a statement certifying that they understand that the personnel office will investigate the accuracy of their answers and that providing misinformation is grounds for dismissal.) A questionnaire was written to guide in the eliciting of responses about the same factual information taken from the personnel records. Our questions were not framed in the interest of securing the most accurate data, but to determine the accuracy of responses to simple, straightforward questions. The interview was conducted as follows:

> Hello. Is Mr. _____ at home? Mr. _____, my name is Carol Hall. I am conducting a survey on voting for Professor Weaver of St. Mary's University. Do you think 18-year olds should be allowed to vote? When were you born? Do you have a full-time job? When did you start working there? What is your monthly/hourly salary? Thank you for your cooperation. Goodbye.

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*The overall results--not broken down by ethnicity--are reported elsewhere. See Charles N. Weaver and Carol L. Swanson "Validity of Reported Date of Birth, Salary, and Seniority," The Public Opinion Quarterly, Vol. 38 (1974), 69-80, and Charles N. Weaver, Sandra L. Holmes, and Norval D. Glenn, "Some Characteristics of Inaccessible Respondents in a Telephone Survey," Journal of Applied Psychology, Vol. 60 (1975), forthcoming.

**For giving us access to personnel data, we are indebted to Mr. Clyde C. McCollough, Jr., Director of Personnel, City of San Antonio.

The necessity for differentiating between monthly and hourly wage earners on the questionnaire was created by the fact that many Black employees are paid an hourly wage and worked a variable number of hours each month. Consequently, their hourly wage could not be converted to a monthly figure.

The interviews were conducted by two Anglo females, one of whom has a Master's degree in English and the other was a graduate student in Business Administration. Both were experienced in interviewing for scholarly and commercial research. They were familiar with and sought to avoid the response errors which are thought to result from disparity in social class between the two parties to an interview.*

The two interviewers did not use their correct names because it was preferred that inquiries be directed to their supervisor at St. Mary's University rather than to the interviewers themselves. In previous research we discovered that associating a survey with a university had a favorable effect on the response rate since respondents seem to be more receptive to a study sponsored by an educational institution than to a commercially sponsored survey. The lead question "Do you think 18 year olds should be allowed to vote?" was chosen because a pilot test revealed that many of the interviewees felt a social responsibility to express their opinions

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*For a discussion of such errors, see

Daniel Katz, "Do Interviewers Bias Polls?" Public Opinion Quarterly, VI (Summer, 1942), 248-268, and James A. Williams, Jr., "Interviewer-Respondent Interaction: A Study of Bias in the Information Interview," Sociometry, XXVII (September, 1964), 338-352.

on a matter of perceived national concern. Another important reason for using the voting question was that respondents seemed to expect that we would ask them about their age and other control information in order to evaluate their response. Thus, this question provided a successful ingress to the rather personal questions which followed.

No reference was made to the location of the respondent's employment since it was necessary for the purpose of the study to avoid any suggestion that responses could be or would be checked for truthfulness. We did, however, preface the salary question with an inquiry about whether the respondent had a full-time job so that anyone who was moonlighting would know that our subsequent questions referred to his employment with the city of San Antonio. We followed the salary question with an inquiry about occupation. If the answer did not indicate that the respondent was referring to his employment at the city, the interviewer sought clarification to the earlier question about the full-time job. If any respondent had persisted in stating that he was in an occupation which showed that he was not a full-time city employee, we would have inferred that he had terminated his employment after our lists of respondents were obtained. Less than two percent of the respondents fell into this category.

There were several reasons for not attempting to measure the validity of other traditional controls. For certain variables, such as marital status and number of children, it was difficult to secure up-to-date information because the Personnel Office has no administrative

reason to keep it current. We hesitated to ask additional personal questions for fear of increasing the number of complaints or the number of terminations. We were able to separate the city employees by race on the basis of information from the Personnel Department, and we divided the non-Blacks into Mexican-American and Anglo-American on the basis of Spanish-surname.*

FINDINGS

Reported Date of Birth.

Of 455 responses to the date of birth question (219 from Anglos, 105 from Mexican-Americans, and 131 from Blacks) 50 were inaccurate. A response to this question was considered inaccurate if it was one or more years over or under the respondent's correct date of birth. There was a statistically significant difference ($p < .10$) among the three groups:

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*While errors in classification, associated with such circumstances as exogenous marriages, can occur by using Spanish-surname to identify Mexican-Americans, it is sufficiently accurate to be used by most researchers who study Mexican-Americans. For instance, see Weaver, Charles N. and Sandra L. Holmes, "Education As an Explanation for the Differential Employment Rate of Mexican-Americans and Anglo-American Employees," Southern Journal of Educational Research, Vol. 6 (1972); Weaver, Charles N. and Norval D. Glenn, "The Job Performance of Mexican Americans," Sociology and Social Research, Vol. 54 (1970); and Weaver, Charles N. "Accidents As a Measure of the Acclimation of Mexican Americans," The Sociological Quarterly, Vol. 11 (1970). As we use the terms, both Mexican-Americans and Anglos are white persons, but the Anglos have no Mexican or colonial Spanish ancestry.

20 (9.132%) of the Anglo responses were in error, 9 (8.5714%) of the Mexican-American responses were in error, and 21 (16.00%) of the Black responses were in error.* Significance tests of pair-wise differences among the three groups showed that the source of the overall variations was attributable to the greater error in the responses by Blacks.

Arrangement of the inaccurate responses into categories of over- and understatement reveals a greater tendency for Mexican-Americans and Blacks to say that they were younger than they actually were: only 7 (36.84%) of the 19 inaccurate Anglo responses were understatements but 6 (66.66%) of the 9 inaccurate Mexican-American responses and 14 (66.66%) of the 21 inaccurate Black responses were understatements.** Analysis of the pattern of inaccurate responses by our controls (age, salary, seniority, and job classification) revealed a common tendency toward more overstatement by younger, less well-paid employees, but showed no statistically significant variation among the three groups.

Perhaps the most important result of this analysis was whether a difference would result from the analysis of a dependent variable with reported date of birth instead of true date of birth. We tabled the "yes"

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*Throughout this paper tests for the significance of differences are conducted with the chi-square procedure.

**$p < .02$.

responses to the voting-preference question by both reported and true dates of birth. Comparing the dependent variable arranged in these two ways showed no significant difference for any of the three ethnic groups.* We concluded that the inaccuracies we had observed in reported date of birth were not sufficiently large for any of the three groups to produce significant distortions in the analysis of a dependent variable.

Reported Salary.

Of 389 responses to the salary question (186 from Anglos, 92 from Mexican-Americans and 111 from Blacks) only 33 answers were correct within one dollar. Surprisingly, 32 of the correct responses were from Blacks while only one was from Anglos and none was from Mexican-Americans. Among the 111 Black respondents, 86 were paid on a monthly basis and 25 were paid by the hour. A greater proportion of correct responses was paid on an hourly basis than from those paid on a monthly basis. Of the 25 Blacks paid hourly, 9 (36.00%) gave correct salary answers and of the 86 paid by the month, 23 (26.75%) gave correct answers.

We analyzed the differences among the three groups with respect to the direction of their inaccurate responses. If a respondent said he earned more than he actually did (by an amount in excess of one dollar), he was considered to have overstated his salary; if he reported his salary

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*With three degrees of freedom each, chi-square analysis revealed the following results: Anglos, $.50 < P < .70$; Mexican-Americans, $P > .95$ and Blacks, $P > .90$.

to be less than it actually was (in excess of a dollar), he understated it. These comparisons revealed pronounced differences: 164 (88.79%) of 186 Anglo responses were overstatements, 71 (77.17%) of 92 Mexican-American responses were overstatements, and 32 (37.21%) of the monthly and 9 (36.00%) of the hourly Black responses were overstatements. Conversely, 21 (11.23%) of Anglo, 21 (22.83%) of Mexican-American, and 31 (36.05%) of monthly and 9 (36.00%) of hourly Black responses were understatements.

We further analyzed inaccurate responses by dividing the over- and understatements by degree of inaccuracy: within $25, from $25 to $50, and over $50. Because of the small cell sizes which resulted, we could not perform this analysis with 16 incorrect responses from Blacks who were paid by the hour.

When overstating salary, 25 (78.12%) of the 32 overstating Anglos were within $25 of the true figure while the corresponding numbers were 7 (9.86%) for 71 overstating Mexican-Americans and 12 (37.50%) for 32 overstating Blacks. Overstatements which were within $25 to $50 of the true figure numbered 60 (36.59%) for Anglos, 24 (33.80%) for Mexican-Americans, and 7 (20.88%) for Blacks. Responses which were inaccurate by more than $50 were given by 79 (48.17%) of the Anglos, 40 (56.34%) of the Mexican-Americans, and 13 (40.62%) of the Blacks.

Arranging the understated responses by the same categories of inaccuracy revealed the following variations. In the category of within $25, there were 11 (52.38%) of the 21 underreporting Anglos, 10 (47.62%) of the 21 underreporting Mexican-Americans, and 13 (41.94%) of the 31 underreporting Blacks. In the $25 to $50 category there were 4 (19.05%) Anglos, 8 (38.10%) Mexican-Americans, and 8 (25.81%) Blacks. Understating by $50 or more were 6 (28.57%) Anglos, 3 (14.28%) Mexican-Americans, and 10 (32.25%) Blacks.

Next, we analyzed the inaccurate responses with our controls. The first approach was to examine inaccuracy without regard to whether it represented an over- or understatement. Since there was only one response which was accurate to the dollar among the Anglos and Mexican-Americans, this analysis could only be done with responses from Blacks. There was no significant variation in the accuracy of Black responses with respect to sex or seniority, but there were significant systematic variations with regard to age and salary. The younger, but less well-paid Blacks tended to report their salaries more accurately.

We then applied our controls to the inaccurate responses with respect to whether they were over- and understatements. Separating the over- and understatements of the three groups by seniority revealed no variation except that the Anglos with less seniority tended to overstate more than did Anglos with more seniority. The only variation which resulted from the separation by age was the general tendency for younger

employees in each group to overstate salary. And there was a tendency common to the three groups toward the overstatement of salary by smaller amounts as the amount of true salary was greater.

The controls were next applied to degrees of over- and understatement. Unfortunately the number of Blacks in the sample was too small to permit meaningful analysis of these detailed cross-references. Comparison of the Anglos and Mexican-Americans, however, revealed several interesting variations. When overstating salary Mexican-Americans tended to overstate by relatively more than did overstating Anglos. This continued to be true when age, seniority, salary, and job classification were controlled. Too few cells were large enough to permit a similar analysis for understatements.

In order to determine if important distortions would result from the analysis of a dependent variable using reported and in contrast to true salary, and if any such variation could be attributed to ethnicity, we tabled the "yes" responses to the voting-preference question by reported and true salaries. Analysis of these data, presented in Tables 1 and 2, revealed that statistically significant distortions did occur in the analysis of a dependent variable using reported salary instead of true salary for Anglos and for Mexican-Americans but not for Blacks, whether they were paid on an hourly or monthly basis.

CONCLUSIONS

The findings of this research comparing reported and true date of birth and salary for Mexican-American, Anglo, and Black employees of the city of San Antonio reveal wide variation between the two variables in the degree to which they are accurately reported and in the degree of accuracy with which the two variables are reported by the three groups. We found that salary variations are so significant--among Anglos and Mexican-Americans--that great care should be exercised in the use of this variable gathered in this way. We believe that these results raise serious doubt that validity is a generalized phenomenon; it is probably specialized, being structurally associated with the characteristics of respondents.

It is our impression that the interview responses of Mexican-Americans can be expected to be largely similar to those of the larger population, but our evidence suggests that Black response behavior is sufficiently unique (more accurate in some instances) to require that it continue to be the subject of investigation.

Table 1

A Comparison of Reported and True Salary of Anglo and Mexican American Respondents Answering Yes on the Voting Preference Question

Salary	Anglo-American				Mexican-American			
	Reported		Time		Reported		Time	
	N	%	N	%	N	%	N	%
Less than $600	5	5.95	20	23.81	5	8.77	9	15.79
$600 - $625	12	14.29	27	32.13	6	10.53	14	24.56
$625 - $650	4	4.76	11	13.10	8	14.04	16	28.07
$650 - $675	29	34.52	12	14.20	11	19.30	5	8.77
$675 and Over	34	40.48	14	16.67	27	47.36	13	22.81
	d.f.=4, χ^2=25.06, P<.001				d.f.=4, χ^2=9.25, .10<P<.05			

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Table 2

A Comparison of Reported and Time Salary of Black Respondents Answering Yes on the Voting Preference Question.*

Salary	Reported		True	
	N	%	N	%
$2.15 per hour or less	11	57.89	12	63.16
More than $2.15 per hour	8	42.11	7	36.84
Total	19	100.00	19	100.00
Less than $400	25	35.71	27	38.58
$400 - $499	16	22.86	18	25.71
$500 - $599	14	20.00	13	18.57
$600 and Over	15	21.43	12	17.14
Total	70	100.00	70	100.00

*For the hourly employees, $P<.90$; for the monthly employees $P<.90$.